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ABSTRACT

Descriptions of the number and distributions of minority physicians, dentists, and pharmacists within certain geographically and demographically defined areas are provided. Data from the Bureau of the Census for the 1980 Decennial Census were used in examining distribution patterns of minority and non-minority practitioners by geographic region, number of inhabitants, poverty status of the area, and primary care manpower shortage area designation status. Where possible, practitioner-to-population ratios by race/ethnicity are also presented for localities. This study's findings indicate: (1) Asians outnumbered other minority groups, especially within the physician supply; (2) uneven distribution patterns occurred among geographic regions of the country regardless of race/ethnicity; (3) all racial/ethnic professionals were disproportionally located in heavily populated areas, but minority health professionals were more likely than white health professionals to reside in the most populous counties; and (4) an overwhelming majority of all health professionals resided in counties which were not classified as high poverty areas. Numerous tables are contained throughout the text and in the appendix. (ML)

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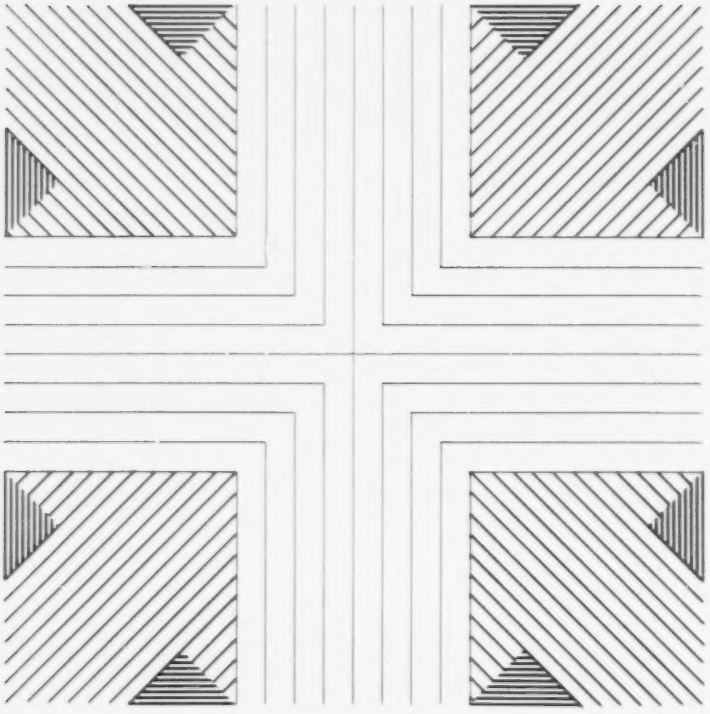
Location Patterns of Minority and Other Health Professionals



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Preface

The location and practice patterns of minority health care providers have long been a subject of interest to researchers, analysts and policymakers. However, relatively few studies have dealt with this topic, largely because of the paucity and incompleteness of data needed for analysis. This report, which presents an analysis of the numbers, distribution, and practice patterns of minority health personnel, is based on data from the 1980 Census of Population and Housing on the location patterns of persons classified as physicians, dentists, and pharmacists according to their reported race/ethnicity. Although the use of Census Bureau data for the purposes of describing health personnel is subject to a number of caveats, limitations, and qualifications, it is hoped that the information presented will add to the body of knowledge on this topic and provide a better understanding of the contribution of minority health professionals to the Nation's health care system.

This report was prepared by Ernell Spratley of the Technical Coordination and Analysis Branch, John Drabek, Ph.D., Chief, within the Office of Data Analysis and Management. Secretarial assistance was provided by Nancy Trosky. William B. Hill and Gary Burns assisted in preparing the report for publication.

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Location Patterns of Minority and Other Health Professionals

Introduction

Studies of the distribution and practice patterns of health care providers rarely include the race of the practitioner as a variable. Yet the scanty data which do exist on the location and practice patterns of minority health professionals indicate that these patterns are sufficiently different from those of the general population of health professionals to warrant special study.[1,2] In particular, some of these data have indicated that minority health care providers are more likely than non-minority practitioners to practice in predominately minority and underserved communities.

Identification of the location patterns of minority health care providers is of critical importance to many public and private programs whose emphasis is on promoting the training of minority personnel as a means of helping to alleviate health care underservice and improving the equity in access to health careers for all segments of the population. Unfortunately, not only is there a dearth of information on the numbers of minority personnel in the health occupations but current and comprehensive national studies of the location and practice patterns of such persons are virtually nonexistent.

Information collected by the Bureau of the Census for the 1980 Decennial Census of Population and Housing not only provides an opportunity to determine residential patterns for persons who are classified as health personnel but also permits an examination of the demographic and social characteristics of the population in areas where health personnel are located.

This report uses Census data to describe the location patterns of persons classified by the census as physicians, dentists and pharmacists according to their racial/ethnic heritage and to relate the supplies of these practitioners in a locality to the population in that area. Information from three different data files compiled by the Bureau of the Census from the 1980 Decennial Census of Population and Housing-EEO File, Summary Tape File 3 and the five percent Public Use Microdata Sample are analyzed in this study. The objective of the analysis was to determine minority and non-minority practitioner distribution according to geographic region, number of inhabitants, poverty status of the area, and primary care manpower shortage area designation status (for physicians). Where possible, practitioner-to-population ratios by race/ethnicity are also presented for localities.

1/ Gray, Lois. "The Geographic and Functional Distribution of Black Physicians: Some Research and Policy Considerations." American Journal of Public Health. Volume 67, 1977.

2/ Lloyd, Sterling and Johnson Davis G. "Practice Patterns of Black Physicians Results of a Survey of Howard University College of Medicine Alumni." Journal of the National Medical Association. Volume 74, No. 2, 1982.

In this report, practitioner-to-population ratios are presented to summarize and illustrate the numerical relationship between health practitioners and the population of a specific racial/ethnic group and are useful for making comparisons of this relationship between groups and within groups for certain areas. However, these ratios should not be used as indicators of access to or availability of health care services to specific racial/ethnic groups since it is obvious that a population group does not obtain services solely from persons of their own racial/ethnic background. Additionally as is discussed below, Census Bureau counts of the number of persons in specific health professions and by race/ethnicity are subject to a number of limitations which would further preclude the use of these practitioner-to-population ratios as indicators of access to or the availability of health practitioners to a particular population group or area.

Caveats and Limitations

The accuracy of the census data in identifying racial/ethnic differences in the location patterns of health personnel is affected by several major factors:

(1) Census classification is based on self-reported job title, job description and industry, while health professions analysts rely heavily on licensure, certifications and specialized training to distinguish among health occupations.

(2) Some respondents have been misclassified, generally into occupations of higher status, probably on the basis of ambiguous job descriptions. A recent evaluation of the 1980 census data on health occupations[3/] revealed that substantial proportions of persons who did not meet the minimum educational requirements of the occupations were included in the personnel counts for these occupations. Seven percent of those classified as physicians and dentists and 18 percent of those classified as pharmacists failed to meet the minimum educational criteria. Moreover, these apparently misclassified persons were more likely to be females and minorities.

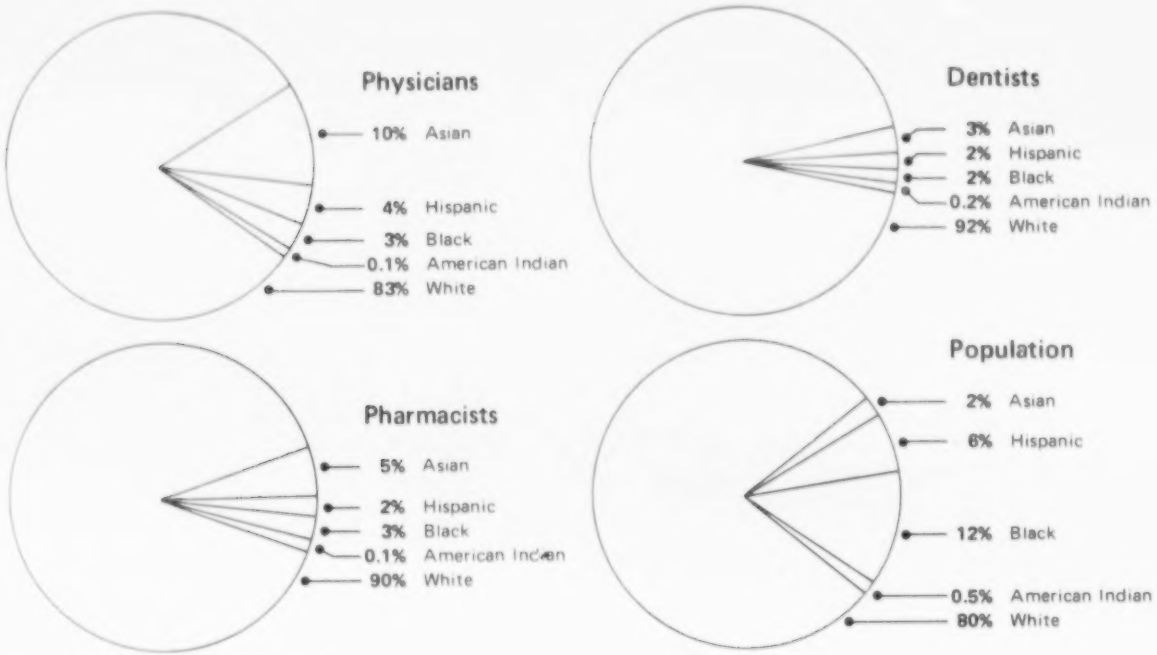
(3) Some teachers, administrators and researchers are classified into functional groups by the census, and thus the specific health occupations they belong to cannot be identified.

(4) Persons in these occupations comprise a relatively small part of the total population and sampling error is substantially compounded when analysis is focused on subgroups (such as minorities) that account for a very small percentage of these occupations.

(5) Data on the location of personnel are by place of residence and not by place of employment.

3/ US DHHS PHS Health Resources and Services Administration, Bureau of Health Professions, An In-Depth Examination of the 1980 Decennial Census Employment Data for Health Occupations. ODAM Report No. 17-84, July 1984

Figure 1. Percent Distribution of Recent Experienced Civilian Health Professionals and Total Population by Race/Ethnicity: 1980



Source: Based on Appendix Table A-1

Despite these problems, Census data are the only source available which can provide comprehensive information on the location patterns of health personnel according to their race/ethnicity. Thus, they are believed to be useful in providing an indication of the general direction of the location patterns of minority and non-minority practitioners in these three professions and in shedding some light on the differences which exist among them.

Overview

The analyses presented in this paper substantiate other available data which point to the wide variation in the representation of specific racial/ethnic groups in the health professions irrespective of the area where these groups are located. They highlight the differences among groups in their location patterns within certain geographically and demographically defined areas, and in the relationship between the location of practitioners of a specific racial/ethnic group in these areas and the location of the general population of that group in the area.

It is widely recognized that the supplies of health professionals are composed in large part of persons who are not members of a racial/ethnic minority group. Yet even within the small pool of minority practitioners there is variation in the degree to which specific racial/ethnic minorities are represented in the health professions. Among the physician supply in particular, Asians clearly led the other minority groups in representation among the total supply of practitioners (see Figure 1 and Table A-1). These differences are even more evident when compared with the representation of

these groups in the total population. The percentage of Asians in these professions was substantially in excess of the percentage of Asians in the total population[4/], while the percentages of Black, Hispanic and American Indian health professionals were considerably smaller than the percentages that these groups were of the population at the national level and in most areas of the country (see Table A-2).

The differences in the magnitude of practitioner-to-population ratios among specific racial/ethnic group practitioners help to further illustrate these variations. For most areas examined in this paper such ratios were much higher for Asians than for any other group (including whites). Generally Blacks and American Indians had the lowest ratios in all the professions and Hispanics, with a few area exceptions, had higher ratios than Blacks and Indians but lower ratios than whites and Asians. Such comparisons are made among these groups not to imply the presence of competition between practitioners of different backgrounds but to simply place the situation of a particular group in perspective with others and to indicate that policies regarding the supplies of minority health practitioners will likely need to vary according to the specific race/ethnicity of the practitioner.

Aside from the fact that they are differentially represented in the health professions, minority practitioners show substantial variation in the characteristics of the areas in which they reside. In many cases, the location of a notable proportion of health practitioners of any racial/ethnic background in an area appears to be highly influenced by or associated with the presence of a substantial proportion of their own population group in that area. However, in a given area the proportional distribution of practitioners in each racial/ethnic group is not related solely to the proportional distribution of that population group since (as is discussed in later sections of this paper) there is some incongruence in the distributions and in a few instances a great deal of dissimilarity. Yet, the relationship between practitioner and population location patterns is further demonstrated by the fact that, while the percentages varied, practitioners from each racial/ethnic minority group were much more likely than white practitioners to reside in areas in which significant percentages of their respective population group resided (see Table 1).

The following section provides a summary of the report's findings regarding similarities and differences in the location of practitioners according to race/ethnicity and how these patterns relate to the population. These are discussed in detail in the body of the report.

Summary and Highlights

Geographic Region and Division - Regardless of their race/ethnicity, the health professionals examined--physicians, dentists, and pharmacists--were not evenly distributed among the geographic regions of the country. However,

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4/ The substantial overrepresentation of Asians among the supply of physicians, in particular, reflects the fact that foreign medical graduates who have immigrated to this country are a sizeable percentage of the U.S. physician supply. In addition the number of Asian students in U.S. medical schools has increased substantially over the past decade.

Table 1. Percent of Health Professionals and Population Residing in Counties with Significant Representation of Minority Population*, by Race/Ethnicity, 1980

Race/Ethnicity	Population	Physicians	Dentists	Pharmacists
Black	55	46	49	49
White	15	20	16	20
Hispanic	47	31	46	52
White	6	11	8	6
Asian	49	15	52	47
White	6	12	9	6
Indian	20	8	6	5
White	-	-	-	-

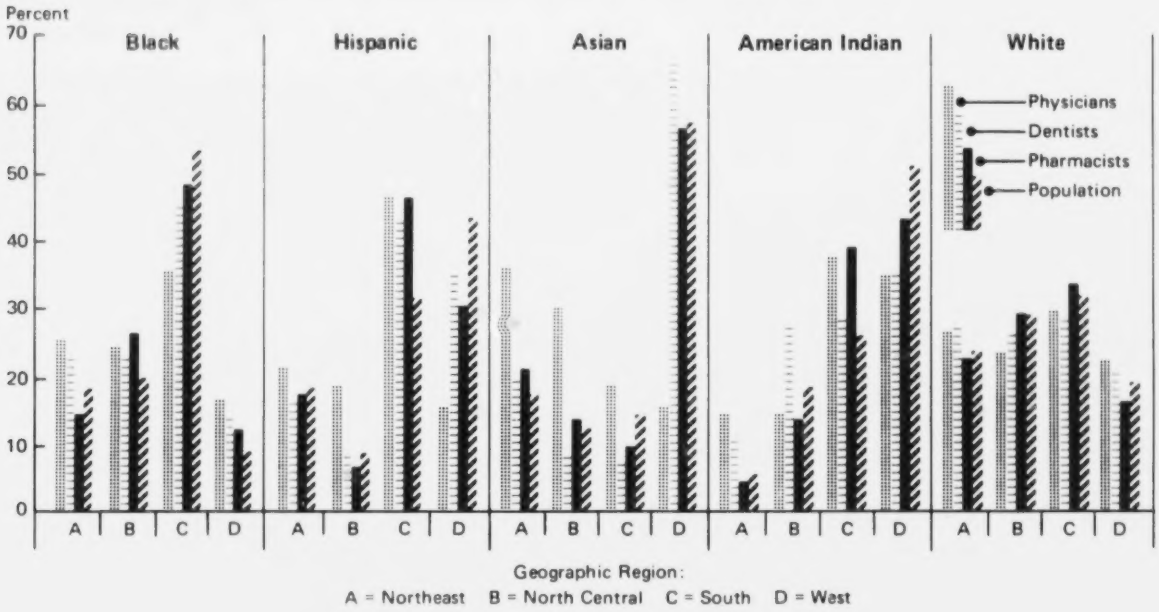
- Less than one-half of one percent

*Significant representation of minority population means that 20 percent or more of the population is black, 20 percent or more of the population is Indian, 20 percent or more of the population is Hispanic or 5 percent or more of the population is Asian.

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration from unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

practitioners from each of the racial/ethnic minority groups were much more likely than white practitioners to cluster in certain geographic areas. The areas in which minority practitioners were clustered varied according to the race/ethnicity of the practitioner and to some extent according to the profession. Within all racial/ethnic groups a significant percentage of practitioners in the three professions resided in the Middle Atlantic Division. Aside from this, the areas of the country in which these practitioners were likely to reside differed somewhat. For example, significant percentages of Black practitioners resided in the East North Central and South Atlantic areas, while Hispanic practitioners resided in large percentages in the South Atlantic, West South Central and Pacific Divisions of the country. Asian dentists and pharmacists resided overwhelmingly in the Pacific Division while Asian physicians resided in largest percentages in the Middle Atlantic and East North Central areas. Indian practitioners resided in large part in the South Atlantic, West South Central and Pacific Divisions.

Figure 2. Percent Distribution of Recent Experienced Civilian Health Professionals and Population by Geographic Region According to Race/Ethnicity: 1980



Source: Based on Appendix Tables A-4, A-10 and A-14

In general, the location of significant percentages of practitioners of a particular racial/ethnic group in a geographic Division appears to be highly associated with the presence of a substantial proportion of that population group in the area. There are, however, several areas where notable differences exist in practitioner and population location patterns. First, the distribution of Asian physicians bears little resemblance to the distribution of the Asian population (see Figure 2). As is discussed in greater detail in the physician section of this paper, some of this disparity is probably related to differences in the ethnic composition of the Asian physician supply and the general Asian population. Also of note is the difference between the very substantial percentages of Hispanic practitioners in all three professions (20-30 percent) who resided in the South Atlantic area and the relatively small percentage (8 percent) of the Hispanic population residing in that area. At the same time the percentages of Hispanic health professionals in the West South Central and Pacific Divisions was substantially below the percentages of the Hispanic population residing in these areas. As was true for Asians, some of these differences probably reflect differences in the ethnic composition of the Hispanic health professionals and of the Hispanic population. Even among comparatively more homogenous groups such as Blacks and American Indians there were some distinct incongruencies in the proportional distribution of practitioners and of the population. The most obvious disparity among Blacks was in the East South Central and West South Central Divisions, where the percentages of the Black physician supply and the Black dentist supply were probably about one-half of the percentage of the Black population. These differences reflect the fact

that many of the States in these Divisions have a very sizeable rural population and although a significant percentage of the Black population resided in sparsely populated areas, Black health professionals resided largely in heavily populated areas.

Variations in the practitioner-to-population ratios by region generally reflect the same disparity in practitioner and location patterns. However, the overall levels of Black, American Indian and Hispanic practitioners are so low in relation to their respective populations that even without distributional differences, practitioner-to-population ratios for these groups would remain far short of the comparable ratios observed for Asians and whites in most areas of the country.

County Population Size - Health professionals from all racial/ethnic groups were disproportionately located in heavily populated areas in 1980. However, there were differences according to race/ethnicity in the likelihood of residing in sparsely or heavily populated counties. White health professionals were more likely than professionals of any racial/ethnic minority group (except American Indians) to reside in areas with the fewest inhabitants (see Table 2). On the other hand, health professionals from every racial/ethnic minority group (again except American Indians) were more likely than white health professionals to reside in the most populous counties.

Since from nearly one-third to more than 40 percent of the population of Blacks, Hispanics and Asians resided in counties with 1,000,000 or more inhabitants, it appears that the location of comparatively large percentages of health practitioners from these groups in such counties is associated to some extent with the location of the population. However, as is true for the regional distribution there were several notable differences in the proportional distribution of practitioners of some racial/ethnic groups and their respective populations, particularly in the sparsely populated counties. For example, only 3-4 percent of Black physicians, dentists and pharmacists resided in counties with fewer than 50,000 inhabitants while 15 percent of the Black population resided in such counties. Although other racial/ethnic groups also showed similar patterns in the proportional distribution of practitioners and populations in sparsely populated areas, these differences were greatest among Blacks.

Despite the fact that Black health professionals resided in disproportionately high percentages in heavily populated counties their representation among the total supplies of health professionals in these areas was far below the representation of the Black population in these areas (see Tables A-3 and A-4).

In contrast to other racial/ethnic groups, the percentage of Asian physicians residing in counties with fewer than 50,000 inhabitants was more than double the percentage of the Asian population residing in such counties. These differences were reflected in higher Asian physician-to-Asian population ratios in the sparsely populated counties than in the more populous counties. Practitioner-to-population ratios for all other racial/ethnic groups were higher in the more populous counties. Of course, the levels of these practitioner-to-population ratios varied according to race/ethnicity within all counties regardless of the number of inhabitants.

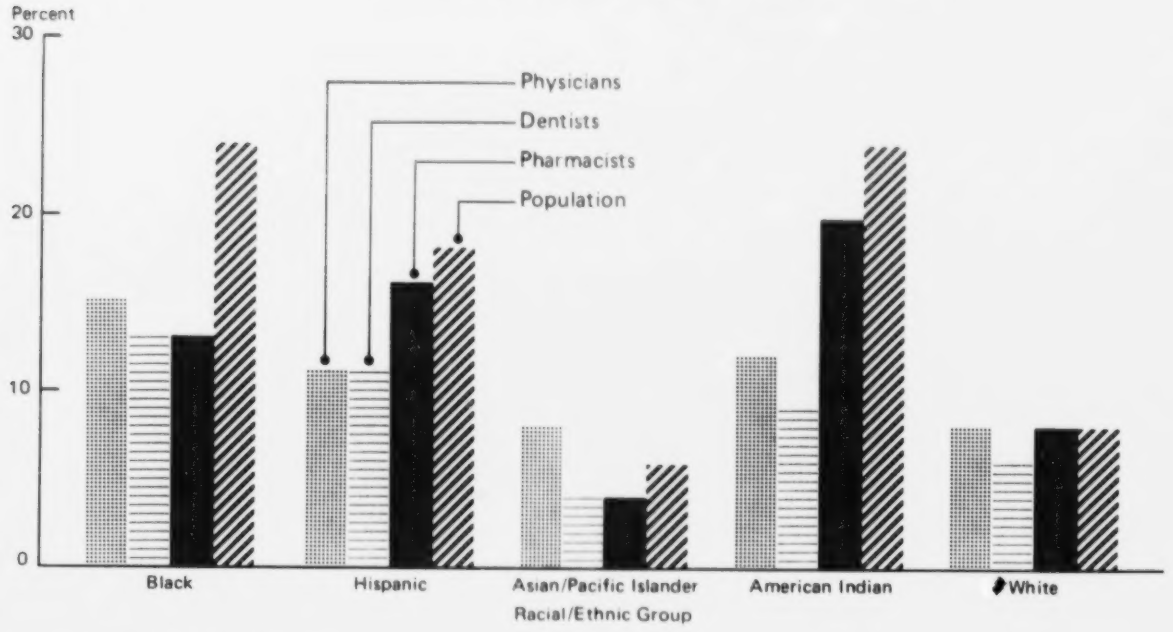
Table 2. Percent Distrbution of Recent Experienced Civilian Health Professionals by Race/Ethnicity and County Population Size, 1980

	Black			Hispanic			Asian/Pacific Islander		
	Physicians	Dentists	Pharmacists	Physicians	Dentists	Pharmacists	Physicians	Dentists	Pharmacists
TOTAL	100	100	100	100	100	100	100	100	100
Under 10,000 Inhabitants	0	0	0	0	0	0	1	--	--
10,000-49,999	3	4	3	6	4	4	6	2	-1
50,000-99,999	4	4	3	5	7	7	6	4	2
100,000-249,999	8	10	8	8	8	5	11	9	5
250,999-499,999	14	16	14	14	11	16	13	6	8
500,000-999,999	30	31	27	24	22	22	27	34	30
1,000,000 or more	42	36	45	43	48	45	38	46	54

	American/Indian/Alaskan Native			White		
	Physicians	Dentists	Pharmacists	Physicians	Dentists	Pharmacists
TOTAL	100	100	100	100	100	100
Under 10,000 Inhabitants	--	3	2	1	1	2
10,000-49,999	13	21	28	7	11	15
50,000-99,999	16	13	13	9	9	12
100,000-249,999	10	15	13	14	16	16
250,000-499,999	14	7	5	17	16	17
500,000-999,999	23	26	13	25	22	19
1,000,000 or more	23	16	26	28	24	19

Source: U.S. Bureau of the Census. United States Census of Population and Housing, 1980. Unpublished data.

Figure 3. Percent of Recent Experienced Health Professionals and Population Residing in Counties with 20 Percent or More of the Population Below the Poverty Level According to Race/Ethnicity: 1980



Source: Based on Tables 9, 14 and 17

Poverty Status of Area - The overwhelming majority of health professionals in all racial/ethnic groups resided in counties which were not classified as high poverty areas. However, practitioners of some racial/ethnic backgrounds were more likely than others to reside in areas with a high percentage of poverty (see Figure 3). Except for Asians, practitioners of all racial/ethnic minority groups were more likely than white practitioners to reside in such areas.

The likelihood of practitioners residing in high poverty areas appears to be related to the percentages of their respective population groups residing in such areas. Those racial/ethnic groups with the highest proportions of health professionals in poverty areas were also the groups with the highest percentages of the general population in such areas. In most cases, however, the percentages of the population residing in high poverty counties were generally greater than the percentages of health professionals. Again, the location pattern of Asian physicians is in contrast to other groups. While Asian practitioners and the Asian population were the least likely of all the racial/ethnic groups to reside in high poverty areas, Asian physicians were somewhat more likely to reside in such areas than was the population.

Geographic Region and Division

As is true for the population of physicians as a whole, physicians of specific racial/ethnic groups are not evenly distributed among the geographic divisions and regions of the country. Further, physicians in the various racial/ethnic groups differ in the locations in which they are clustered and their locations are somewhat different from the location of the general population of their racial/ethnic group. These regional and divisional location patterns are illustrated in Tables A-5 and A-6 and are discussed below for each racial/ethnic minority group separately.

Black Physicians - Two-thirds of the supply of Black physicians resided (in nearly equal percentages) in three of the nine geographic Divisions of the country--Middle Atlantic, East North Central and South Atlantic. Another substantial proportion of Black physicians also resided in the Pacific Division of the Western Region. Because the numbers of Black physicians are comparatively small in all areas of the country, they comprised no more than four percent of the total supply of physicians even in the areas where they were clustered (see Table A-1). Further, as the parity indexes in Table A-2 illustrate, the representation of Blacks among the supply of physicians in all areas of the country was substantially smaller than the representation of Blacks among the population in those areas.

The regional distribution patterns of Black physicians appear to be related to the distribution patterns of the Black population, since the three geographic divisions with the highest percentages of Black physicians also had the highest percentages of Black population. However, there are some imbalances in the proportional distribution of Black physicians and Black population, as is illustrated by the indices in Table 3 and the Black physician-to-Black population ratios in Table A-7. An index below 1.0 indicates a less than proportional location of minority practitioners vis-a-vis their population group. Areas with an index above 1.0 had proportionately more health professionals than population of that race/ethnic group. For example, Black physicians were more likely than the Black population to locate outside of the South, as shown by the less than 1.0 indices for the Southern Region and its geographic divisions. As figure 2 shows only 35 percent of the Black physicians resided there as compared with 53 percent of the Black population.

As was previously mentioned, the number of Black physicians in relation to the Black population is very small in all areas; as a result, the ratios of Black physicians-to-Black population are comparatively low even in areas where most Black physicians locate. For example, although Black physicians are nearly twice as likely as the Black population to reside in the Pacific Division, the Black physician-to-Black population ratio in this division was only 98 Black physicians per 100,000 Black population (compared with a ratio of 264 white physicians per 100,000 white population). Moreover, while the Black physician-to-Black population ratio in the Pacific Division was the highest of any Division in the country, it was still far below even the lowest ratio for the white population in any Division/Region (154 white physicians per 100,000 white population in the East South Central Division).

Table 3. Ratio of Physician Distribution to Population Distribution by Race/Ethnicity, Geographic Region and Division 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
NORTHEAST	1.23	1.38	1.17	2.06	2.33	1.13
New England	1.40	1.50	1.50	2.00	1.00	1.16
Middle Atlantic	1.25	1.35	1.19	2.07	3.00	1.19
NORTH CENTRAL	.88	1.20	2.00	2.50	.78	.82
East North Central	.94	1.24	2.00	2.89	.75	.84
West North Central	.88	1.00	4.00	1.67	.80	.78
SOUTH	.88	.66	1.48	1.29	1.42	.94
South Atlantic	1.00	.79	3.75	1.50	1.75	1.00
East South Central	.71	.45	2.00	3.00	2.00	.83
West South Central	.82	.54	.64	.80	1.25	1.00
WEST	1.11	1.78	.35	.26	.67	1.22
Mountain	1.00	1.00	.40	.33	.46	1.00
Pacific	1.14	1.88	.33	.26	1.00	1.31

NOTE: An index of 1.00 indicates that the percentage of the practitioners and the percentage of the population in an area are equal. An index of less than 1.00 indicates that the percentage of practitioners in an area is less than the percentage of the population and an index greater than 1.00 indicates that the percentage of practitioners in an area is greater than the percentage of a group's population in that area.

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration from unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Hispanic Physicians - Nearly one-half of all Hispanic physicians in 1980 resided in the South, with 30 percent in the South Atlantic Division alone. Hispanic physicians residing in the South Atlantic Division were eight percent of the total supply of physicians in that area, although Hispanics were only four percent of the total physician supply at the national level. Hispanic physicians also comprised a disproportionately high percentage of the total physician supply in the West South Central Division. However, as the parity indexes in Table A-2 and the physician-to-population ratios in Table A-7 indicate, these two Divisions differ substantially with regard to the relationship of the Hispanic physician supply to the Hispanic population. For example, in the South Atlantic Division Hispanic representation among the total physician supply was substantially in excess of Hispanic representation among the population, while in the West South Central Division the representation of Hispanics among all physicians was substantially below the representation of Hispanics among the population in this area.

The percentage of the Hispanic physician supply residing in most geographic divisions exceeded the percentage of the Hispanic population residing there. This was especially true in the South Atlantic and West North Central Divisions where the percentages of the Hispanic physician supply were approximately four times higher than the percentages of the Hispanic population (Table 3). However, in the West South Central Division and particularly in the divisions of the West, the Hispanic physician supply was in substantial deficit of the Hispanic population--only 15 percent of Hispanic physicians resided in the West as compared with 43 percent of the Hispanic population.

Physician-to-population ratios for Hispanics further illustrate wide division differences in racial/ethnic practitioner and population location patterns. These ratios ranged from a high of 478 Hispanic physicians per 100,000 Hispanic population in the South Atlantic Division (with a relatively large percentage of the Hispanic physician supply but a relatively small percentage of the Hispanic population) to a low of 44 Hispanic physicians per 100,000 Hispanic population in the Pacific Division (with a comparatively small percentage of the Hispanic physician supply but a substantial percentage of the Hispanic population). However, unlike physician-to-population ratios for the Black population, which were substantially below those of the white population in all areas of the country, Hispanic physician-to-population ratios exceeded those of the white population in four geographic Divisions--East North Central, West North Central, South Atlantic, and East South Central.

Some of the differences in the regional location patterns of Hispanic physicians and population probably reflect the substantially different ethnic composition of the Hispanic physicians and the Hispanic population. For example, Cubans resided overwhelmingly in the South Atlantic Division and constituted more than one-fourth of the Hispanic physicians but only five percent of the Hispanic population (see Table 4). On the other hand, Mexicans, who resided largely in the West, comprised about one-fifth of all Hispanic physicians and a majority of the total Hispanic population. These differences further illustrate the difficulty of generalizing about Hispanics as a group, composed as they are of ethnic groups with markedly different backgrounds and experiences.

Table 4. Percent Distribution of Hispanic Health Professionals and Population, by Ethnic Origin, 1980

Ethnic Group	Physicians	Dentists	Pharmacists	Population
Total Hispanic	100	100	100	100
Mexican	19	28	41	60
Puerto Rican	8	4	11	14
Cuban	26	28	23	5
Other Spanish	48	40	25	21

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration, unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Asian Physicians - Asian physicians resided predominately in the Northeast and North Central regions of the country. Nearly 60 percent of all Asian physicians resided in just two divisions of these regions--Middle Atlantic and East North Central and constituted approximately 15 percent of all physicians in each of these areas, representing the largest minority group among physicians. In fact, as the parity indexes indicate, the representation of Asians in the total physician supply in every division of the country except the Pacific is far above the representation of Asians among the total population in that area.

In addition to being substantially overrepresented in most areas of the country, the regional distribution of Asian physicians bears little resemblance to the distribution of the Asian population (see Figure 2). Asian physicians were two to three times more likely than the Asian population to locate in geographic divisions other than the West. While only 15 percent of Asian physicians resided in the West, 57 percent of the Asian population was located there.

Physician-to-population ratios for Asians further illustrate both the above points. For example, the number of Asian physicians per 100,000 Asian population nationally was six times higher than the comparable ratio of white physicians to white population (see Table A-7). In only the Mountain and Pacific Divisions was the ratio less than three to one.

The substantial differences in the location of Asian physicians and the Asian population are shown by the very wide range of these ratios. The highest Asian physician-to-Asian population ratio (in the East North Central Division) was 12 times greater than the lowest ratio (in the Pacific Division).

As was the case for Hispanics, these disparities to some extent reflect the divergent ethnic composition of the Asian physician supply and the Asian population. For example, the Asian physician supply was composed in large part of Asian Indians who resided predominately in the Northeast and North Central areas of the country. The Asian population, on the other hand, was composed largely of Japanese and Chinese who resided overwhelmingly in divisions of the West (Table 5).

American Indian Physicians - American Indian/Alaskan Native physicians comprised less than one-half of one percent of the total physician supply and less than one percent of the total population as enumerated by the Census Bureau in 1980. Because of the large sampling error associated with such small numbers and the effect of even small numerical differences on the ratios and percentages computed, drawing conclusions about this group is particularly risky.

Nonetheless, the data indicate that these physicians were located in large part in the South and West regions of the country. Like Black physicians these patterns appear to be influenced by or associated with the location of substantial percentages of their population group in these areas. However, as also was the case with Blacks, distributional differences exist between the Indian physician supply and the Indian population. For example, Indian physicians were not as likely as the Indian population to locate in the

Table 5. Percent Distribution of Asian/Pacific Islander Health Professionals and Population by Ethnic Origin, 1980

Ethnic Group	Physicians	Dentists	Pharmacists	Population
Total Asian/Pacific Islander	100	100	100	100
Japanese	5	39	18	22
Chinese	16	29	41	25
Filipino	25	8	7	24
Korean	10	8	10	11
Asian Indian	37	13	18	11
Vietnamese	2	1	3	8
Hawaiian and Other Pacific Islanders	5	2	3	-

-Less than one-half of one percent

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration, unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Mountain Division of the West, but were nearly two to three times more likely than the population to reside in the South Atlantic, East South Central and Middle Atlantic Divisions (see Table 3).

Even though American Indians constituted less than one percent of the total U.S. population, their representation in the health professions was substantially below even that small fraction. This is reflected in the comparatively low physician-to-population ratios for this group in all geographic divisions. Even in the Middle Atlantic Division where Indian physicians were three times more likely to reside than the Indian population, the number of Indian physicians per 100,000 Indian population was only 94, as compared with 230 white physicians per 100,000 white population in that Division. In most other geographic areas the ratio of Indian physicians to the Indian population was substantially below the ratio observed in the Middle Atlantic Division.

County Population Size

Physicians, regardless of racial/ethnic heritage, were disproportionately located in heavily populated areas. Within each racial/ethnic group the proportion of physicians located in an area increased as size of the population increased (See Table A-8). Non-minority physicians were more likely than minority physicians (with the exception of American Indians) to locate in the least populous counties.

The physician location in highly populous counties likely reflects the substantial proportions of the population of all racial/ethnic groups residing in populous counties. However, the distribution of the physician supply within all racial/ethnic groups differs from the comparable distribution of the population (see Table 6). Among all groups except Asians, physicians were much more likely than the population to reside in the more populous counties.

Although most Asian physicians resided in heavily populated counties the percentage of these physicians residing in sparsely populated counties was in substantial excess of the percentage of the Asian population in such counties.

Physician-to-population ratios for county size groups further illustrate and summarize the differences within and between racial/ethnic groups for these areas. For most racial/ethnic groups, physician-to-population ratios generally increased as the number of inhabitants in the area increased and there was a substantial differential between the ratios for the least and most populous counties (see Table A-9). Moreover, the size of this differential varied according to race/ethnicity. The differential in physician-to-population ratios was largest for Blacks, among whom the ratio in counties with one million or more inhabitants was seven to nine times higher than the ratios for counties with fewer than 50,000 inhabitants. Among whites ratios for the most populous counties were 4 to 5 times higher than ratios for counties with fewer than 50,000 inhabitants and among Hispanics they were 2 to 5 times higher. In contrast to the patterns shown for other racial/ethnic groups, the physician-to-population ratio for the Asian/Pacific Islander population did not increase with county population size. In fact, the highest ratios for this group were within the counties with the fewest number of inhabitants, while the lowest ratios were in the more populous counties. However, even the lowest ratio for this group was three times greater than the highest ratio for the white population.

Table 6. Ratio of Physician Distribution to Population Distribution by County Size and Race/Ethnicity, 1980

Number of Inhabitants	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
Under 10,000 Inhabitants	.50	-	-	-	-	.50
10,000-49,999 Inhabitants	.41	.21	.75	2.00	.54	.39
50,000-99,999 Inhabitants	.67	.50	.83	1.00	.76	.69
100,000-249,999 Inhabitants	.81	.73	1.00	1.38	.77	.82
250,000-499,999 Inhabitants	1.07	1.00	1.00	1.30	1.17	1.13
500,000-999,999 Inhabitants	1.39	1.36	1.33	.82	2.09	1.47
1,000,000 or moreInhabitants	1.42	1.40	.95	.95	1.64	1.56

NOTE: An index of 1.00 indicates that the percentage of the practitioners and the percentage of the population in an area are equal. An index of less than 1.00 indicates that the percentage of practitioners in an area is less than the percentage of the population and an index greater than 1.00 indicates that the percentage of practitioners in an area is greater than the percentage of a group's population in that area.

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration, unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Primary Care Manpower Shortage Areas - About 3 percent of all physicians were located in counties which were wholly designated as primary care manpower shortage areas in 1980 and more than 70 percent were located in counties which were partly designated as shortage areas. Since it is not possible from the available data to determine whether these physicians were located in the part of the county that was designated, information on physician location in shortage areas is not particularly meaningful for the purposes of this paper. Although the percentage of the physician supply residing in wholly designated counties was not large for any minority group, American Indian physicians and to a lesser extent Hispanic physicians appeared more likely to reside in such counties than physicians of other racial/ethnic groups (see Table 7).

Furthermore, except for Asian/Pacific Islanders the percentages of the physician supply located in counties which were wholly designated as shortage areas were substantially lower than the percentages of the population residing in such areas.

Poverty Status of County Residents

The overwhelming majority of physicians in 1980 resided in counties which were not classified as high poverty counties (defined as counties with 20 percent or more of the total population below the poverty level).* However, physicians in some racial/ethnic groups were more likely than others to reside in such counties (see Table 8). For example, physicians of all racial minority groups except Asians were more likely than white physicians to reside in high poverty counties.

Those racial/ethnic groups that had the highest percentages of physicians residing in high poverty areas were the same ones that had the highest percentages of their population in such areas. However, physicians and populations of specific racial/ethnic groups were not equally as likely to reside in counties of high poverty (Table 8). Among all racial/ethnic groups except whites and Asians, physicians were more likely than the general population to reside in the more affluent counties. These differences are reflected in physician-to-population ratios which were lower in high poverty counties than in the more affluent counties (Table 9). In contrast, ratios for whites and Asians were higher in high poverty counties than in more affluent counties. This reflects the fact that the population in these groups were even less likely than physicians to reside in counties with a substantial percentage of poor residents.

*In these comparisons it is especially important to remember that Census Bureau data on location refer to the place of residence of these practitioners and not their place of practice. The fact that these practitioners do not live in high poverty areas does not mean that they do not have practices in such areas.

Table 7. Percent Distribution of Recent-Experienced Civilian Physicians and Population by Race/Ethnicity and Primary Care Physician Shortage Area Designation Status, 1980

Race/Ethnicity	Physicians				Population			
	Total	None of County Designated	Whole County Designated	Part of County Designated	Total	None of County Designated	Whole County Designated	Part of County Designated
TOTAL	100	26	3	71	100	30	9	61
Black	100	20	2	78	100	24	10	66
Hispanic	100	22	5	73	100	16	8	77
Asian/Pacific Islander	100	23	3	74	100	15	2	83
American Indian/Alaskan Native	100	21	10	69	100	21	15	64
White	100	26	3	70	100	32	9	59

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing, 1980. Unpublished data.

Table 8. Percent Distribution of Recent-Experienced Civilian Physicians and Population by County Poverty Status and Race/Ethnicity, 1980

Race/Ethnicity	Physicians			Population		
	Total	20% or More of Population Below Poverty	Less Than 20% of Population Below Poverty	Total	20% or More of Population Below Poverty	Less than 20% of Population Below Poverty
TOTAL	100	9	91	100	10	90
Black	100	15	85	100	24	76
Hispanic	100	11	89	100	18	82
Asian/Pacific Islander	100	8	92	100	6	94
American Indian/Alaskan Native	100	12	88	100	24	76
White	100	8	92	100	7	93

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing, 1980. Unpublished data.

Table 9. Recent-Experienced Civilian Physicians per 100,000 Population by Race/Ethnicity and Poverty Status, 1980

	Total	20% + Below Poverty	Less Than 20% Below Poverty
TOTAL	191	164	194
Black	50	31	57
Hispanic	129	80	140
Asian/Pacific Islander	1,199	1,621	1,097
American Indian/Alaskan Native	35	17	40
White	198	224	196

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing, 1980. Unpublished data.

Geographic Region and Division

As with physicians, there were notable regional differences in the location of dentists by racial/ethnic heritage. These patterns are discussed separately for each racial/ethnic minority group.

Black Dentists - Nearly one-third of all Black dentists resided in the South Atlantic Division of the country, although significant percentages were also in the Middle Atlantic and East North Central Divisions (see Tables A-10 and A-11).

As was the case with physicians, the proportion that Black dentists comprised of total dentists was so low that even in areas of the country where they were clustered their representation among the total dentist supply was substantially lower than the proportion of the Black population in these areas (Table A-2).

However, the location of Black dentists was more closely aligned with the location of the Black population than were Black physicians although there were areas where differences existed. Particularly notable was the shortfall of Black dentists relative to Black population in the East South Central and West South Central Divisions.

In these divisions there were fewer than 10 black dentists per 100,000 black population (see Table A-12). Black dentist-to-population ratios in all areas of the country were substantially lower than both the comparable white and Asian dentist-to-population ratios.

Hispanic Dentists - More than one-half of all Hispanic dentists resided in just two of the nine geographic divisions of the country--the South Atlantic and the Pacific. The Hispanic dentist supply was substantially below parity with the Hispanic population representation in all areas of the country except the South Atlantic and East South Central Divisions. As was the case for Black dentists, the proportional distribution of Hispanic dentists among geographic divisions was closer to the distribution of the Hispanic population than that of Hispanic physicians. However, Hispanic dentists were more than three times as likely as the Hispanic population to locate in the South Atlantic, while the proportion of Hispanic dentists residing in the West South Central was about 40 percent lower than the proportion of the Hispanic population residing there. Differences in the Hispanic dentist-to-Hispanic population ratios further illustrate the effects of these location differences. There was more than a five-fold difference in the ratios for the South Atlantic and West South Central Divisions (see Table A-12).

As indicated earlier, some of the above differences probably reflect differences in the ethnic composition of Hispanic practitioners and the Hispanic population. While Mexicans and Cubans comprise nearly equal percentages of the Hispanic dentist supply, the Hispanic population is largely composed of Mexicans residing in substantial proportions in the West South Central. On the other hand, Cubans resided overwhelmingly in the South Atlantic Division but comprised a very small percentage of the Hispanic population.

Unlike the Hispanic physician-to-Hispanic population ratios which exceeded ratios for whites in some areas of the country, Hispanic dentist-to-Hispanic population ratios were lower than the comparable ratios for the white population in all divisions of the country.

Asian Dentists - Close to two-thirds of the supply of dentists of Asian/Pacific Islander heritage resided in the Pacific Division of the country. These dentists comprised 12 percent of the total supply of dentists there, but made up only 3 percent of the total supply of dentists nationally. Unlike Asian physicians, the representation of Asian dentists was at least at parity with the representation of Asians in the population in most areas. However, Asian dentists were actually overrepresented in the Middle Atlantic and Pacific Divisions (see Table A-2).

Furthermore, the regional distribution of Asian dentists was much more comparable to the distribution of the Asian population than that of Asian physicians. Nonetheless, there were some differences, as reflected in the indices in Table 10 and the variations in the Asian dentist to Asian population ratios (see Table A-3).

For most areas of the country Asian dentist-to-Asian population ratios were higher than white dentist-to-white population ratios while the comparable ratios for all other racial/ethnic minority groups were far below those for the white practitioners and population.

American Indian Dentists - Less than one-half of one percent of the total number of dentists enumerated by the Bureau of the Census were American Indians/Alaskan Natives. The same cautions discussed earlier with regard to Indian physician data are applicable to Indian dentists as well.

Indian dentists resided in large part in the South and West Regions of the Country. However, unlike physicians, a substantial percentage of them also resided in the West North Central Division of the country.

While the regional distribution of the Indian dentist supply was generally in accordance with the distribution of the Indian population, Indian dentists were somewhat more likely to reside in the New England and South Atlantic Divisions and much less likely to reside in the Mountain Division (Table 10).

Indian dentist-to-Indian population ratios shown in the tables not only illustrate variations in practitioner and population location, they also highlight the comparatively small numbers of Indian practitioners in relation to the Indian population in all areas. For example, even in the Middle Atlantic Division, where Indian dentists were more than three times as likely to reside as the Indian population, there were only 57 Indian dentists per 100,000 Indian population compared with a ratio of 68 white dentists per 100,000 white population. In all other areas of the country where Indian dentists were not as likely to reside, such ratios were far below the comparable ratios for the white population.

Table 10. Ratio of Dentist Distribution to Population Distribution by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
NORTHEAST	1.23	1.22	.88	1.12	1.83	1.17
New England	1.40	1.50	2.00	1.00	3.5	1.17
Middle Atlantic	1.25	1.12	.75	1.13	1.00	1.31
NORTH CENTRAL	.96	1.10	.89	.67	1.50	.90
East North Central	1.00	1.06	.86	.78	1.13	.90
West North Central	.88	1.33	2.00	.67	1.80	.78
SOUTH	.82	.83	1.35	.50	1.08	.87
South Atlantic	.88	1.03	3.38	.50	2.13	.93
East South Central	.71	.73	2.00	1.00	-	.83
West South Central	.73	.46	.59	.40	.69	.89
WEST	1.16	1.44	.79	1.16	.69	1.11
Mountain	1.00	2.00	.80	.67	.35	1.00
Pacific	1.21	1.38	.82	1.19	1.04	1.15

NOTE: An index of 1.00 indicates that the percentage of the practitioners and the percentage of the population in an area are equal. An index of less than 1.00 indicates that the percentage of practitioners in an area is less than the percentage of the population and an index greater than 1.00 indicates that the percentage of practitioners in an area is greater than the percentage of a group's population in that area.

Source: Derived by Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration from unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

County Population Size

The largest percentages of dentists in almost all racial/ethnic groups were found in the most populous localities (see Table A-13). However, there were major differences between racial/ethnic groups in their location in the most populous versus least populous areas. Non-minority dentists were more likely than dentists in all racial/ethnic minority groups except American Indians to locate in sparsely populated counties. For example, 12 percent of white dentists were located in counties with fewer than 50,000 inhabitants as compared with two to four percent of dentists in most racial/ethnic minority groups. Conversely, minority dentists (with the exception of American Indians) were more likely than non-minority dentists to locate in the most populous counties. The proportion of minority dentists located in counties with one million or more inhabitants ranged from 36 percent (Asian and Black) to 48 percent (Hispanic) as compared with only 24 percent of white dentists. Even though dentists of racial/ethnic minority groups generally were disproportionately located in densely populated areas, all except Asians were substantially underrepresented among the total dentist supply in these areas relative to the representation of their population groups among the population. Asian dentists, on the other hand, were overrepresented in most areas (see Table A-4). As was true for physicians, dentists of all racial/ethnic groups were less likely than their respective populations to reside in sparsely populated counties but were more likely to reside in the most densely populated areas (Table 11). These differences are further illustrated in the dentist-to-population ratios which are shown in Table A-14.

Poverty Status of County Residents

The overwhelming majority of dentists, regardless of race/ethnicity, resided in counties with less than 20 percent of the population below the poverty level.* (See Table 12). However, Black, Hispanic and American Indian dentists were more likely than other dentists to locate in such counties. The percentages of dentists from these groups residing in counties with a high poverty rate were approximately two to three times greater than the percentages of white and Asian dentists similarly located.

Those minority dentists located in poorer counties tended to be those whose population group heavily populated such areas. Like most physicians, however, dentists, regardless of their race/ethnicity, resided in poorer counties in lesser proportions than their population group (see Figure 3).

*See the cautions regarding the interpretation of these data in the preceding section on physicians.

Table 11. Ratio of Dentist Distribution to Population Distribution by Race/Ethnicity and County Size, 1980

Number of Inhabitants	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
Under 10,000 Inhabitants	.50	-	-	-	.60	.50
10,000-49,999	.65	.29	.50	.67	.88	.61
50,000-99,999	.75	.50	1.17	.67	.62	.69
100,000-249,999	.94	.91	1.00	1.13	1.15	.94
250,000-499,999	1.07	1.14	.79	.60	.58	1.07
500,000-999,999	1.28	1.41	1.22	1.06	2.36	1.29
1,000,000 or more	1.19	1.20	1.07	1.12	1.14	1.26

- Either the percentage of dentists or percentage of the population in these areas was less than one-half of one percent.

NOTE: An index of 1.00 indicates that the percentage of the practitioners and the percentage of the population in an area are equal. An index of less than 1.00 indicates that the percentage of practitioners in an area is less than the percentage of the population and an index greater than 1.00 indicates that the percentage of practitioners in an area is greater than the percentage of a group's population in that area.

Source: Derived by Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration from unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Table 12. Percent Distribution of Recent-Experienced Civilian Dentists and Population by County Poverty Status and Race/Ethnicity, 1980

	Dentists			Population		
	Total	20% or More of Population Below Poverty	Less Than 20% of Population Below Poverty	Total	20% or More of Population Below Poverty	Less than 20% of Population Below Poverty
TOTAL	100	6	94	100	10	90
Black	100	13	87	100	24	76
Hispanic	100	11	89	100	18	82
Asian/Pacific Islander	100	4	96	100	6	94
American Indian/Alaskan Native	100	9	91	100	24	76
White	100	6	94	100	8	92

NOTES: "Recent-experienced" civilian dentists are defined as civilian dentists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census, United States Census of Population and Housing: 1980. Unpublished data.

Geographic Region and Division

The regional location patterns of pharmacists according to race/ethnicity are discussed in the sections below.

Black Pharmacists - More than one-half of all Black persons enumerated as pharmacists in 1980 resided in just two divisions of the country--the South Atlantic and the East North Central. Notable proportions of Black pharmacists also resided in the West South Central, Middle Atlantic, and Pacific Divisions of the country (see Tables A-15 and A-16). Black pharmacists comprised approximately six percent of the total pharmacist supply in the two divisions in which they were most heavily concentrated, double their representation among the national supply of pharmacists (see Table A-1). However, even in the areas where their numbers were the greatest, the proportion of the total number of pharmacists was far below the proportion of the Blacks in the population (Table A-2). Of particular note is the paucity of Black pharmacists in the East South Central Division, where one out of every five inhabitants was Black while only one out of every hundred pharmacists was Black.

The distribution of Black pharmacists among geographic divisions was much more in line with the Black population distribution than that of Black physicians and Black dentists. Nevertheless, there were areas where Black pharmacists were disproportionately high relative to Black population--the East North Central, West South Central and Pacific Divisions (see Table 13). By way of contrast the percentage of Black pharmacists in the East South Central Division was far below the percentage of the Black population residing in that division.

Hispanic Pharmacists - Hispanic pharmacists resided in the largest proportions in the South Atlantic and West South Central Divisions, but with substantial proportions also in the Middle Atlantic Division and the two Divisions of the Western Region. Even though Hispanic pharmacists in most of these divisions comprised a disproportionately high percentage of the total pharmacist supply (at least as compared with Hispanic representation among the national supply of pharmacists) they were substantially below parity with the proportional representation of the Hispanic population in all areas except the South Atlantic where Hispanic pharmacists were overrepresented.

Asian Pharmacists - Asian pharmacists were more clustered regionally than pharmacists from other racial/ethnic groups. Nearly three-fourths of the total supply of these practitioners resided in just two geographic divisions (the Pacific and Middle Atlantic) with more than one-half of the total in the Pacific Division alone. Approximately one out of every five pharmacists in that division was an Asian/Pacific Islander compared with one out of every 20 at the national level.

Unlike the regional distribution of Asian physicians, the distribution of Asian pharmacists was quite similar to the distribution of the Asian population.

Table 13. Ratio of Pharmacist Distribution to Population Distribution by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
NORTHEAST	1.00	.78	.94	1.24	.83	.96
New England	1.20	1.00	1.50	.50	1.50	1.00
Middle Atlantic	1.00	.71	.94	1.33	.50	1.00
NORTH CENTRAL	1.04	1.30	.78	1.08	,72	1,00
East North Central	1.11	1.41	.86	1.33	.63	1.00
West North Central	1.00	1.00	-	.33	.80	1.00
SOUTH	1.00	.91	1.48	.71	1.50	1.06
South Atlantic	1.00	.97	3.13	.63	1.00	1.07
East South Central	1.00	.28	1.00	1.00	--	1.17
West South Central	.91	1.31	.95	.80	1.94	1.11
WEST	.95	1.33	.70	.98	.84	.89
Mountain	1.00	1.00	1.30	1.00	.65	1.00
Pacific	.93	1.38	.48	.98	1.04	.85

NOTE: An index of 1.00 indicates that the percentage of the practitioners and the percentage of the population in an area are equal. An index of less than 1.00 indicates that the percentage of practitioners in an area is less than the percentage of the population and an index greater than 1.00 indicates that the percentage of practitioners in an area is greater than the percentage of a group's population in that area.

Source: Derived by Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration from unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

American Indian Pharmacists - American Indian pharmacists resided predominately in the West South Central, Mountain, and Pacific Divisions of the country (see Tables A-15 and A-16). These practitioners were less than one percent of the total pharmacist supply even in these areas where they were clustered.

As was true for other racial/ethnic groups the regional distribution of the Indian pharmacist supply was more similar to the distribution of the Indian population than were the distributions of physicians and dentists.

County Population Size

Minority pharmacists were much more likely to locate in heavily populated areas than in sparsely populated areas. White pharmacists were more evenly distributed among sparsely and heavily populated areas. Forty-five percent of Black and Hispanic pharmacists and 54 percent of Asian pharmacists were located in counties with one million or more inhabitants, while less than 5 percent of practitioners from these groups were located in counties with fewer than 50,000 inhabitants (see Table A-17). In contrast, the percentage of White pharmacists in counties with fewer than 50,000 residents (17 percent) was nearly the same as the percentage in counties with one million or more inhabitants (19 percent).

Although the distribution of white pharmacists according to county population size was virtually the same as the distribution of the white population, among some minority pharmacists this was not the case. In general minority pharmacists were more likely to reside in heavily populated counties and not quite as likely to locate in sparsely populous counties (see Table 14). This was especially true for blacks and Asians.

Poverty Status of County Residents

The majority of all pharmacists resided in counties which did not have a comparatively high percentage of the population below the poverty level. There were notable differences according to racial/ethnic heritage in the percentages of pharmacists residing in counties with a high poverty rate (see Table 15). As was the case for the other health professions discussed, Black, Hispanic and Indian pharmacists were more likely than Asians and whites to locate in such counties. Again, these were also the groups with the largest percentages of their population in counties with a high poverty rate.

Table 14. Ratio of Pharmacist Distribution to Population Distribution by Race/Ethnicity and County Size, 1980

Number of Inhabitants	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
Under 10,000 Inhabitants	.50	-	-	-	.40	1.00
10,000-49,999 Inhabitants	.82	.21	.50	.33	1.17	.83
50,000-99,999 Inhabitants	.92	.38	1.17	.33	.62	.92
100,000-249,999 Inhabitants	.94	.73	.63	.63	1.00	.94
250,000-499,999 Inhabitants	1.07	1.00	1.14	.80	.42	1.13
500,000-999,999 Inhabitants	1.11	1.23	1.22	.94	1.18	1.12
1,000,000 or more Inhabitants	1.05	1.50	1.00	1.32	1.86	1.00

NOTE: An index of 1.00 indicates that the percentage of the practitioners and the percentage of the population in an area are equal. An index of less than 1.00 indicates that the percentage of practitioners in an area is less than the percentage of the population and an index greater than 1.00 indicates that the percentage of practitioners in an area is greater than the percentage of a group's population in that area.

Source: Derived by Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration from unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Table 15. Percent Distribution of Recent-Experienced Civilian Pharmacists Population by Race/Ethnicity and County Poverty Status, 1980

	Pharmacists			Population		
	Total	20% or More of Population Below Poverty	Less Than 20% of Population Below Poverty	Total	20% or More of Population Below Poverty	Less than 20% of Population Below Poverty
TOTAL	100	8	92	100	10	90
Black	100	13	87	100	24	76
Hispanic	100	16	84	100	18	82
Asian/Pacific Islander	100	4	96	100	6	94
American Indian/Alaskan Native	100	20	80	100	24	76
White	100	8	92	100	8	92

NOTES: "Recent-experienced" civilian pharmacists are defined as civilian pharmacists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration based on unpublished data from the , U.S. Bureau of the Census, United States Census of Population and Housing, 1980. Unpublished data.

Appendix I Tables

Table A-1. Race/Ethnicity of Population and Selected Health Professions by Geographic Region and Division, 1980

Geographic Region and Division	Black				Hispanic			
	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists
TOTAL	12	3	2	3	6	4	2	2
NORTHEAST	10	3	2	2	5	3	1	2
New England	4	1	1	1	2	0	1	1
Middle Atlantic	12	3	2	2	6	4	1	2
NORTH CENTRAL	9	3	2	3	2	3	1	1
East North Central	11	4	3	4	3	4	1	1
West North Central	5	1	1	1	1	3	-	-
SOUTH	19	4	4	5	6	7	3	3
South Atlantic	21	4	5	6	3	8	3	4
East South Central	20	4	5	1	1	2	1	-
West South Central	15	2	2	6	13	7	3	5
WEST	5	2	1	2	14	3	3	4
Mountain	2	1	1	1	13	3	3	6
Pacific	6	3	2	3	15	3	3	3

Geographic Region and Division	Asian/Pacific Islander				White			
	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists
TOTAL	2	10	3	5	80	83	92	90
NORTHEAST	1	13	2	4	84	81	95	92
New England	1	6	1	1	93	91	97	97
Middle Atlantic	1	15	3	5	81	77	94	90
NORTH CENTRAL	1	13	1	2	88	81	96	96
East North Central	1	15	1	3	86	77	96	92
West North Central	-	7	1	1	93	89	97	98
SOUTH	1	6	1	1	74	92	92	90
South Atlantic	1	7	1	2	75	80	90	89
East South Central	-	5	-	1	79	90	95	98
West South Central	1	5	1	2	70	85	94	87
WEST	5	7	9	14	74	87	86	79
Mountain	1	3	1	2	81	93	95	90
Pacific	6	8	12	19	71	85	84	75

- Less than one-half of one percent

Information is not shown for American Indians who constitute less than one percent of the population in all geographic regions except the West where they comprise three percent of the population in the Mountain Division and one percent in the Pacific Division. They also comprised less than one-half of one percent of the supply of health practitioners in most areas.

Source: U.S. Bureau of the Census, United States Census of Population and Housing: 1980 Unpublished data.

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Table A-2. Parity Index of Health Professionals to General Population of Specific Racial/Ethnic Groups by Region and Division, 1980

Geographic Region and Division	Black				Hispanic			
	Population	Physician	Dentist	Pharmacist	Population	Physician	Dentist	Pharmacist
TOTAL	1.00	.25	.17	.25	1.00	.67	.33	.33
NORTHEAST	1.00	.30	.20	.20	1.00	.60	.20	.40
New England	1.00	.25	.25	.25	1.00	--	.50	.50
Middle Atlantic	1.00	.25	.17	.17	1.00	.67	.17	.31
NORTH CENTRAL	1.00	.33	.22	.33	1.00	1.50	.50	.50
East North Central	1.00	.36	.27	.36	1.00	1.33	.33	.33
West North Central	1.00	.20	.20	.20	1.00	3.00	--	--
SOUTH	1.00	.21	.21	.26	1.00	1.17	.50	.50
South Atlantic	1.00	.19	.24	.29	1.00	2.67	1.00	1.33
East South Central	1.00	.20	.25	.05	1.00	2.00	1.00	--
West South Central	1.00	.13	.13	.40	1.00	.54	.23	.38
WEST	1.00	.40	.20	.40	1.00	.21	.21	.29
Mountain	1.00	.50	.50	.50	1.00	.23	.23	.46
Pacific	1.00	.50	.33	.50	1.00	.20	.20	.20

Geographic Region and Division	Asian/Pacific				White			
	Population	Physician	Dentist	Pharmacist	Population	Physician	Dentist	Pharmacist
TOTAL	1.00	5.00	1.50	2.50	1.00	1.04	1.15	1.13
NORTHEAST	1.00	13.00	2.00	4.00	1.00	.98	1.13	1.10
New England	1.00	6.00	1.00	1.00	1.00	.97	1.04	1.04
Middle Atlantic	1.00	15.00	3.00	5.00	1.00	.95	1.16	1.11
NORTH CENTRAL	1.00	13.00	1.00	2.00	1.00	.92	1.09	1.07
East North Central	1.00	15.00	1.00	3.00	1.00	.90	1.12	1.07
West North Central	--	--	--	--	1.00	.96	1.04	1.05
SOUTH	1.00	6.00	1.00	1.00	1.00	1.11	1.24	1.22
South Atlantic	1.00	7.00	1.00	2.00	1.00	1.07	1.20	1.19
East South Central	--	--	--	--	1.00	1.14	1.20	1.24
West South Central	1.00	5.00	1.00	2.00	1.00	1.21	1.34	1.24
WEST	1.00	1.40	1.80	2.80	1.00	1.18	1.16	1.07
Mountain	1.00	3.00	1.00	2.00	1.00	1.15	1.17	1.11
Pacific	1.00	1.33	2.00	3.17	1.00	1.20	1.18	1.06

Parity Index = Racial/ethnic group percent of supply of practitioners/racial ethnic group percent of population

The Parity Index is computed to show how the percentage of the racial/ethnic group among the supply of health practitioners compares with their percentage among the general population. An index of less than one indicates that the group is underrepresented among the practitioner supply in an area and an index greater than one indicates that they are overrepresented The closer the index is to one the closer the group is to parity.

Table A-3. Race/Ethnicity of Population and Selected Health Professions by County Population Size, 1980

Number of County Inhabitants	Black				Hispanic			
	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists
TOTAL	12	3	2	3	6	4	2	2
Under 10,000 Inhabitants	6	1	1	-	4	3	1	-
10,000-49,999	10	1	1	1	3	4	1	1
50,000-99,999	8	1	1	1	3	2	1	2
100,000-249,999	8	2	2	2	3	3	1	1
250,000-499,999	11	3	2	3	6	4	1	2
500,000-999,999	14	4	3	4	6	4	2	3
1,000,000 or more	17	4	4	7	14	6	3	5

Number of County Inhabitants	Asian/Pacific Islander				White			
	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists	Percent of Population	Percent of Physicians	Percent of Dentists	Percent of Pharmacists
Total	2	10	3	5	80	83	92	90
Under 10,000 Inhabitants	-	9	--	--	87	87	98	98
10,000-49,999	-	8	1	-	86	87	98	98
50,000-99,999	1	7	1	1	87	89	96	96
100,000-249,999	1	8	2	2	87	87	96	96
250,000-499,999	1	8	1	2	81	86	95	93
500,000-999,999	3	10	5	7	76	82	90	86
1,000,000 or more	3	12	5	11	67	77	87	77

- Less than one-half percent
-- No practitioners in this area

Source: U.S. Bureau of the Census. United States Census of Population and Housing, 1980. Unpublished data.

Table A-4. Parity Index of Health Professionals to General Population of Specific Racial/Ethnic Groups by County Population Size 1980

Number of County Inhabitants	Black				Hispanic			
	Population	Physicians	Dentists	Pharmacists	Population	Physicians	Dentists	Pharmacists
TOTAL	1.00	.25	.17	.25	1.00	.67	.33	.33
Under 10,000 Inhabitants	1.00	.17	.17	-	1.00	.75	.25	-
10,000-49,999	1.00	.10	.10	.10	1.00	1.33	.33	.33
50,000-99,999	1.00	.13	.13	.13	1.00	.67	.33	.67
100,000-249,999	1.00	.25	.25	.25	1.00	1.00	.33	.33
250,000-499,999	1.00	.27	.18	.27	1.00	.67	.17	.33
500,000-999,999	1.00	.29	.21	.29	1.00	.67	.33	.50
1,000,000 or more	1.00	.24	.24	.41	1.00	.43	.21	.36

Number of County Inhabitants	Asian				White			
	Population	Physicians	Dentists	Pharmacists	Population	Physicians	Dentists	Pharmacists
TOTAL	1.00	5.00	1.50	2.50	1.00	1.04	1.15	1.13
Under 10,000 Inhabitants	1.00	-	-	-	1.00	1.00	1.13	1.13
10,000-49,999	1.00	-	-	-	1.00	1.01	1.14	1.14
50,000-99,999	1.00	7.00	1.00	1.00	1.00	1.02	1.10	1.10
100,000-249,000	1.00	8.00	2.00	2.00	1.00	1.00	1.10	1.10
250,000-499,999	1.00	8.00	1.00	2.00	1.00	1.06	1.17	1.15
500,000-999,999	1.00	3.33	1.67	2.33	1.00	1.08	1.18	1.13
1,000,000 or more	1.00	4.00	1.67	3.67	1.00	1.15	1.30	1.15

Parity Index = Racial/ethnic group percent of supply of practitioners/racial ethnic group percent of population

Partiy Index is computed to show how the percentage of the racial/ethnic group among the supply of health practitioners compares with their percentage among the general population. An index of less than one indicates that the group is underrepresented among the practitioner supply in an area and an index greater than indicates that they are overrepresented The closer the index is to one the closer the group is to parity.

- Either the percentage of the population or the percentage of practitioner supply in these areas are less than one-half of one percent.

Source: Derived by the Office of Data Analysis and Management, Bureau of Health Professions, Health Resources and Services Administration, unpublished data from the U.S. Bureau of the Census. United States Census of Population and Housing, 1980.

Table A-5. Number of Recent-Experienced Civilian Physicians by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	433,260	13,230	18,850	41,980	510	357,840
NORTHEAST	116,900	3,330	3,970	15,040	70	94,340
New England	28,770	350	470	1,860	10	26,050
Middle Atlantic	88,120	2,980	3,500	13,170	60	68,290
NORTH CENTRAL	100,950	3,170	3,390	12,740	70	81,360
East North Central	72,680	2,750	2,650	10,820	30	56,230
West North Central	28,270	420	740	1,920	40	25,130
SOUTH	125,160	4,630	8,700	7,710	190	103,560
South Atlantic	68,230	3,050	5,710	4,820	70	54,320
East South Central	20,170	710	370	1,080	20	17,950
West South Central	36,760	870	2,630	1,800	100	31,290
WEST	90,240	2,110	2,780	6,470	180	78,590
Mountain	20,220	150	670	530	60	18,790
Pacific	70,020	1,950	2,110	5,940	130	59,800

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-6. Percent Distribution of Recent-Experienced Civilian Physicians by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	100	100	100	100	100	100
NORTHEAST	27	25	21	36	14	26
New England	7	3	3	4	2	7
Middle Atlantic	20	23	19	31	12	19
NORTH CENTRAL	23	24	18	30	14	23
East North Central	17	21	14	26	6	16
West North Central	7	3	4	5	8	7
SOUTH	29	35	46	18	37	29
South Atlantic	16	23	30	12	14	15
East South Central	5	5	2	3	4	5
West South Central	9	7	14	4	20	9
WEST	21	16	15	15	35	22
Mountain	5	1	4	1	12	5
Pacific	16	15	11	14	25	17

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.
Due to independent rounding, figures may not add to totals

Source: U.S. Bureau of the Census, United States Census of Population and Housing: 1980. Unpublished data.

Table A-7. Recent-Experienced Civilian Physicians Per 100,000 Population by Specified Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	191	50	129	1,199	35	198
NORTHEAST	238	69	152	2,687	80	229
New England	233	74	157	2,296	43	227
Middle Atlantic	240	68	152	2,751	94	230
NORTH CENTRAL	172	59	267	3,269	27	158
East North Central	174	60	248	3,574	26	158
West North Central	165	53	354	2,207	27	158
SOUTH	166	33	195	1,641	48	185
South Atlantic	185	40	478	1,849	56	195
East South Central	138	25	308	2,632	80	154
West South Central	155	25	84	1,071	41	188
WEST	209	93	44	311	25	247
Mountain	178	56	46	539	16	205
Pacific	220	98	44	300	38	264

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-8. Number of Recent-Experienced Civilian Physicians by Race/Ethnicity and County Population Size, 1980

Number of Inhabitants	Total	Black	Hispanic	American Indian/ Alaskan Native	Asian/ Pacific Islander	White
			Number of Physicians			
Total	433,260	13,230	18,850	510	41,980	357,840
Under 10,000 Inhabitants	2,440	20	70	---	230	2,130
10,000 - 49,999 Inhabitants	28,960	360	1,090	70	2,330	25,070
50,000 - 99,999 Inhabitants	35,140	460	840	80	2,470	31,220
100,000 - 249,999 Inhabitants	56,580	990	1,550	50	4,590	49,310
250,000 - 499,999 Inhabitants	70,090	1,910	2,610	70	5,400	59,950
500,000 - 999,999 Inhabitants	109,540	3,910	4,580	120	11,140	89,530
1,000,000 or more Inhabitants	130,510	5,580	8,100	120	15,820	100,640
			Percent Distribution			
Total	100	100	100	100	100	100
Under 10,000 Inhabitants	1	0	0	---	1	1
10,000 - 49,999 Inhabitants	7	3	6	13	6	7
50,000 - 99,999 Inhabitants	8	4	5	16	6	9
100,000 - 249,999 Inhabitants	13	8	8	10	11	14
250,000 - 499,999 Inhabitants	16	14	14	14	13	17
500,000 - 999,999 Inhabitants	25	30	24	23	27	25
1,000,000 or more Inhabitants	30	42	43	23	38	28

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-9. Recent-Experienced Civilian Physicians per 100,000 Population by Race/Ethnicity and County Population Size, 1980

Number of Inhabitants	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
Total	191	50	129	1,199	35	198
Under 10,000 Inhabitants	57	8	38	3,278	--	57
10,000 - 49,999 Inhabitants	78	10	99	1,807	19	78
50,000 - 99,999 Inhabitants	132	22	92	1,061	26	135
100,000 - 249,999 Inhabitants	160	35	129	1,583	26	160
250,000 - 499,999 Inhabitants	207	51	126	1,447	40	218
500,000 - 999,999 Inhabitants	267	66	176	913	72	287
1,000,000 or more Inhabitants	272	70	124	1,073	72	315

NOTES: "Recent-experienced" civilian physicians are defined as civilian physicians employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-10. Number of Recent-Experienced Civilian Dentists by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	125,280	3,130	2,190	3,820	190	115,860
NORTHEAST	33,350	690	350	720	20	31,560
New England	8,110	80	90	70	10	7,850
Middle Atlantic	25,240	600	260	650	10	23,710
NORTH CENTRAL	31,000	680	180	320	50	29,800
East North Central	22,280	560	130	270	20	21,300
West North Central	8,770	120	40	60	30	8,500
SOUTH	33,620	1,380	920	250	50	31,000
South Atlantic	17,920	940	600	140	30	16,210
East South Central	5,710	260	30	20	---	5,400
West South Central	9,990	180	290	90	20	9,410
WEST	27,260	400	750	2,530	60	23,500
Mountain	6,380	50	170	90	20	6,050
Pacific	20,890	340	590	2,440	50	17,450

NOTES: "Recent-experienced" civilian dentists are defined as civilian dentists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-11. Percent Distribution of Recent-Experienced Civilian Dentists by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	100	100	100	100	100	100
NORTHEAST	27	22	16	19	11	27
New England	7	3	4	2	7	7
Middle Atlantic	20	19	12	17	4	21
NORTH CENTRAL	25	22	8	8	27	26
East North Central	18	18	6	7	9	18
West North Central	7	4	2	2	18	7
SOUTH	27	44	42	7	28	27
South Atlantic	14	30	27	4	17	14
East South Central	5	8	2	1	--	5
West South Central	8	6	13	2	11	8
WEST	22	13	34	66	35	20
Mountain	5	2	8	2	9	5
Pacific	17	11	27	64	26	15

NOTES: "Recent-experienced" civilian dentists are defined as civilian dentists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-12. Recent-Experienced Civilian Dentists per 100,000 Population by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	55	12	15	109	13	64
NORTHEAST	68	14	13	129	23	77
New England	66	18	28	86	57	68
Middle Atlantic	69	14	11	136	11	80
NORTH CENTRAL	53	13	14	82	19	58
East North Central	53	12	13	89	14	60
West North Central	51	15	21	69	23	53
SOUTH	45	10	21	53	13	55
South Atlantic	48	12	50	54	25	58
East South Central	39	9	29	49	--	46
West South Central	42	5	9	54	8	56
WEST	63	18	12	122	9	74
Mountain	56	19	12	91	4	66
Pacific	66	17	12	123	14	77

NOTES: "Recent-experienced" civilian dentists are defined as civilian dentists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing, 1980 Unpublished data.

Table A-13. Number of Recent-Experienced Civilian Dentists by Race/Ethnicity and County Population Size, 1980

Number of County Inhabitants	Total Dentists	Black	Hispanic	American Indian/ Alaskan Native	Asian/ Pacific Islander	White
Total	125,280	3,130	2,190	190	3,820	115,860
Under 10,000 Inhabitants	1,200	10	10	10	--	1,170
10,000 - 49,999 Inhabitants	13,250	110	100	40	70	12,920
50,000 - 99,999 Inhabitants	11,380	130	150	20	140	10,930
100,000 - 249,999 Inhabitants	19,120	320	170	30	340	18,260
250,000 - 499,999 Inhabitants	20,000	490	240	10	220	19,000
500,000 - 999,999 Inhabitants	28,600	950	480	50	1,310	25,780
1,000,000 or more Inhabitants	31,800	1,120	1,040	30	1,740	27,800
				Percent Distribution		
Total	100	100	100	100	100	100
Under 10,000 Inhabitants	1	0	0	3	--	1
10,000 - 49,999 Inhabitants	11	4	4	21	2	11
50,000 - 99,999 Inhabitants	9	4	7	13	4	9
100,000 - 249,999 Inhabitants	15	10	8	15	9	16
250,000 - 499,999 Inhabitants	16	16	11	7	6	16
500,000 - 999,999 Inhabitants	23	31	22	26	34	22
1,000,000 or more Inhabitants	25	36	48	16	46	24

NOTES: "Recent-experienced" civilian dentists are defined as civilian dentists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-14. Recent-Experienced Civilan Dentists per 100,000 Population by Race/Ethnicity and County Population Size, 1980

Number of County Inhabitants	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
Total	55	12	15	109	13	64
Under 10,000 Inhabitants	28	4	5	---	7	31
10,000 - 49,999 Inhabitants	36	3	9	54	11	40
50,000 - 99,999 Inhabitants	43	6	16	60	8	47
100,000 - 249,999 Inhabitants	54	11	14	117	14	59
250,000 - 499,999 Inhabitants	59	13	12	60	7	69
500,000 - 999,999 Inhabitants	70	16	18	107	29	83
1,000,000 or more Inhabitants	66	14	16	118	15	87

NOTES: "Recent-experienced" civilian dentists are defined as civilian dentists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Counts by race/ethnicity exclude counties with fewer than 15 persons of a given racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census. United States Census of Population and Housing: 1980. Unpublished data.

Table A-15. Number of Recent-Experienced Civilian Pharmacists by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total	Black	Hispanic	Asian/ Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	145,630	4,720	3,490	6,570	250	130,430
NORTHEAST	32,000	660	610	1,370	10	29,310
New England	8,200	90	80	80	10	7,960
Middle Atlantic	23,780	570	530	1,300	10	21,350
NORTH CENTRAL	39,960	1,240	240	840	30	37,580
East North Central	28,560	1,120	220	770	10	26,400
West North Central	11,400	130	10	70	20	11,180
SOUTH	47,360	2,260	1,610	660	100	42,670
South Atlantic	23,020	1,320	870	350	20	20,430
East South Central	9,760	130	20	80	---	9,530
West South Central	14,580	810	720	240	80	12,720
WEST	26,310	550	1,030	3,700	110	20,880
Mountain	7,700	60	470	190	40	6,940
Pacific	18,620	500	570	3,510	70	13,940

NOTES: "Recent-experienced" civilian pharmacists are defined as civilian pharmacists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census, United States Census of Population and Housing: 1980. Unpublished data.

Table A-16. Percent Distribution of Recent-Experienced Civilian Pharmacists by Race/Ethnicity, Geographic Region and Division, 1980

Geographic Region and Division	Total Total	Black Black	Hispanic Hispanic	Pacific Islander	American Indian/ Alaskan Native	White
TOTAL	100	100	100	100	100	100
NORTHEAST	22	14	17	21	5	22
New England	6	2	3	1	3	6
Middle Atlantic	16	12	15	20	2	16
NORTH CENTRAL	27	26	7	13	13	29
East North Central	20	24	6	12	5	20
West North Central	8	3	0	1	8	9
SOUTH	33	48	46	10	39	33
South Atlantic	16	28	25	5	8	16
East South Central	7	3	1	1	---	7
West South Central	10	17	21	4	31	10
WEST	18	12	30	56	43	16
Mountain	5	1	13	3	17	5
Pacific	13	11	16	53	26	11

NOTES: "Recent-experienced" civilian pharmacists are defined as civilian pharmicists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census, United States Census of Population and Housing: 1980. Unpublished data.

Table A-17. Number of Recent-Experienced Civilian Pharmacists by Race/Ethnicity and County Population Size, 1980

Number of County Inhabitants	Total	Black	Hispanic	American Indian/ Alaskan Native	Asian/ Pacific Islanders	White
Total	145,360	4,720	3,490	250	6,570	130,430
Under 10,000 Inhabitants	2,090	10	10	10	--	2,050
10,000 - 49,999 Inhabitants	20,500	140	140	70	90	20,050
50,000 - 99,999 Inhabitants	16,420	150	250	30	160	15,830
100,000 - 249,999 Inhabitants	21,420	370	170	30	330	20,490
250,000 - 499,999 Inhabitants	23,640	640	550	10	530	21,870
500,000 - 999,999 Inhabitants	29,190	1,260	780	30	1,940	25,110
1,000,000 or more Inhabitants	32,370	2,130	1,580	60	3,530	250,30
			Percent Distribution			
Total	100	100	100	100	100	100
Under 10,000 Inhabitants	1	0	0	2	--	2
10,000 - 49,999 Inhabitants	14	3	4	28	1	15
50,000 - 99,999 Inhabitants	11	3	7	13	2	12
100,000 - 249,999 Inhabitants	15	8	5	13	5	16
250,000 - 499,999 Inhabitants	16	14	16	5	8	17
500,000 - 999,999 Inhabitants	20	27	22	13	30	19
1,000,000 or more Inhabitants	22	45	45	26	54	19

Notes: "Recent-experienced" civilian pharmacists are defined as civilian pharmacists employed in 1980 or unemployed having civilian work experience between 1975 and 1980.

Estimates for specific racial/ethnic groups exclude counties with fewer than 15 persons of that racial/ethnic group. All racial categories exclude Hispanics.

Due to independent rounding, figures may not add to totals.

Source: U.S. Bureau of the Census, United States Census of Population and Housing: 1980. Unpublished data.

Appendix II

Appendix II

Definitions and Explanation of Terms

The Bureau of the Census has published a detailed, comprehensive listing of the definitions of population, housing, geography and technical terms as well as the methodology associated with the 1980 Census of Population and Housing.* The following definitions and explanation of terms relevant to the data shown in this report were extracted from the Census publications:

Race

The concept of race as used by the Bureau of the Census reflects self-identification by respondents according to the race with which they identify. Definitions of the racial categories used in this report are as follows:

White includes persons who indicated their race as White as well as persons who responded to the questionnaire with ethnic origin entries such as German, Italian, Polish, etc.

Black includes persons who indicated their race as Black or Negro and persons who did not classify themselves in one of the specific race categories on the questionnaire but reported entries such as Jamaican, Black Puerto Rican, West Indian, Haitian, or Nigerian.

American Indian/Alaskan Native includes persons who classified themselves as American Indian, Eskimo, or Aleut. In addition, persons who did not report themselves in one of the specific race categories but reported the name of an Indian tribe or reported such entries as Canadian Indian or Spanish American Indian were classified as American Indian.

Asian/Pacific Islander includes persons who indicated their race as Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, Hawaiian, Samoan, and Guamanian as well as persons who wrote in entries such as Cambodian, Laotian, Pakistani, and Fijan under the "Other" race category.

Although the cateogry Race n.e.c. is not shown for the data presented in this report, it includes all persons not included in the categories "White," "Black," "American Indian/Eskimo, and Aleut," and "Asian/Pacific". Persons reporting in the "Other" race category and providing write-in entries such as Eurasian, or a Spanish origin group such as Mexican, Cuban, or Puerto Rican were also included in this category.

Although persons of Hispanic origin may be of any race, data for all racial categories shown in this report exclude Hispanics who are shown separately as a mutually exclusive group.

*U.S. Bureau of the Census, Users' Guide Part A, Text and Users' Guide Part B Glossary. 1980 Census of Population and Housing.

Spanish/Hispanic Origin

Persons of Spanish/Hispanic origin or descent are those who reported either Mexican, Puerto Rican, Cuban, or Other Spanish/Hispanic origin. The "Other Spanish/Hispanic origin" persons were those whose origins were from Spain or the Spanish-speaking countries of Central or South America or persons who identified their origin or descent as being Spanish, Spanish-American, Hispano, Latino, etc. Persons of Spanish origin may be of any race.

Labor Force Status

Data on health personnel in this report are presented for the recent experienced civilian labor force. These persons are defined as civilians who were employed in a given occupation in 1980 or who were unemployed as of the census reference data but whose last civilian work experience between 1975 and 1980 was in that occupation.

Occupation Classification

Self-reported job title played a prominent role in the classification of respondents according to occupation. The classification system developed for the 1980 census consists of 503 specific occupation categories to which responses were coded through the application of a complex set of coding rules. The 1980 Census of Population: Classified Index of Industries and Occupations provides information on the composition of the detailed categories in the census system.

This classification system was developed to be consistent with the 1980 Standard Occupational Classification Manual (SOC) published by the U.S. Department of Commerce, Office of Federal Statistical Policy and Standards.

With regards to the occupations shown in this report physicians were primarily classified into category 084 under this system while dentists and pharmacists were primarily classified into categories 085 and 096, respectively. The job titles assigned to each of these categories are illustrated in Figure AII-1.

Figure AII-1 Job Titles Assigned to the Occupation Categories of Physicians, Dentists, and Pharmacists

084 Physicians

Allergist—(812)
Allopathic doctor—(812)
Anesthesiologist—(K)
Aurist—(812)
Aviation-medicine specialist

Cardiologist—(812)
Cardiovascular-disease specialist—(812)
Cardiovascular surgeon—(812)
Clinical fellow—K
Clinical pathologist—(812)

County-health officer—*840*
D. O.—(812)
Dermatologist—(812)
Diagnostic radiologist—(812)
Diagnostician—K,812-840

Doctor—(812)
Doctor of medicine—(812)
Doctor of osteopathy—(812)
Ear specialist—(812)
Externe—K

Eye doctor—(812)
Eye physician—(812)
Eye specialist—(812)
Family practitioner
Flight surgeon

Forensic pathologist—(812)
Gastroenterologist—(812)
General practitioner—(612)
Gynecologist—(812)
Health officer—*840*

Heart specialist—(812)
Hematologist—(812)
Homeopathic doctor—(812)

Hospital fellow—K
Interne—K
Internist—K,812
Laryngologist—(812)
M. D.—(812)

Medical consultant—(812)
Medical doctor—(812)
Medical examiner—(812)
Medical pathologist—(812)
Medical resident—K

Medical specialist—(812)
Neurological surgeon—(812)
Neurologist—(812)
Neuropsychiatrist—(812)
Neurosurgeon—(812)

O. B. specialist—(812)
Obstetrician—(812)
Occupational-medicine specialist—(812)
Occupational physician
Oculist—(812)

Ophthalmologist—(812)
Orthopedic surgeon—(812)
Orthopedist—(812)
Osteopath—(812)
Osteopathic—K

Osteopathic physician—(812)
Osteopathic resident—K
Osteopathist—(812)
Otolaryngologist
Otorhinolaryngologist—(812)

Pediatric allergist—(812)
Pediatric cardiologist—(812)
Pediatrician—(812)
Pediatrist—(812)
Physiatrist

Physical-medicine and rehabilitation specialist
Physician—(812)
Plastic surgeon—(812)
Police surgeon
Preventive-medicine specialist

Proctologist—(812)
Psychiatrist—(812)
Psychoanalyst—(812)
Public-health doctor—(840)
Pulmonary-disease specialist—(812)

Radiologist—K,812-840
Resident—K
Resident doctor—(K)
Resident interne—K
Resident physician—(K)

Rheumatologist—(812)
Rhinologist—(812)
Roentgenologist—(812)
Skin specialist—(812)
Surgeon—(812)

Therapeutic radiologist—(812)
Thoracic surgeon—(812)
Tuberculosis specialist
Urologist—(812)
X-ray physician—(812)

085 Dentists

D. D. S.—(820)
D. M. D.—(820)
Dental intern—K
Dental officer
Dental surgeon—(820)

Dentist—(820)

Doctor of dental surgery—(820)
Endodontist
Oral pathologist
Oral surgeon—(820)
Orthodontist—(820)

Pedodontist—(820)
Periodontist—(820)
Prosthodontist—(820)
Public-health dentist

096 Pharmacists

Apothecary—(642)
Apprentice
Pharmacist
Doctor of pharmacy
Druggist—(642)

Hospital pharmacist
Industrial pharmacist
Owner—642
Pharmacist—(642)
Pharmacy intern—(K)

Prescriptionist—642
Registered pharmacist—(642)

Note: Letters or numbers following occupation titles are industry and/or class of worker codes.

Source: U.S. Bureau of the Census. 1980 Census of Population: Classified Index of Industries and Occupations PHC80-R4, Nov. 1982

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